WHY THIS WINTER COULD BE COLDER THAN MANY THINK

Back in the early golden days of the AMS's Journal of Climate when the Chief Editor was a real climatologist, some unique studies were published which transformed the field of long range forecasting at least for some of us in the private sector. The papers had followed landmark papers by the Climate Prediction Center's Ropelewski and Halpert in 1986 and 1987 in the Monthly Weather Review that established the role of ENSO in the climate of first North America and then the globe.

Buoyed by these ENSO successes, researchers turned their attention to other factors including the solar.

Papers were published with research by CPC and NCAR climatologists that related some of these factors alone and in combination with another 'modulating' factor with winter seasonal weather patterns in North America. The CPC even tried one year to use one of these factors in their seasonal outlooks without success. They decided after reviewing what happened was that the other factor ignored in their forecast dominated.

Their dilemma was that one of the factors only was available since 1956 and even with just three factors once you started dividing the remaining then 35 years into buckets with all the possible combinations you find an average of less than 2 years per category and find many categories with just 1 year or no year and that of course was not statistically sound.

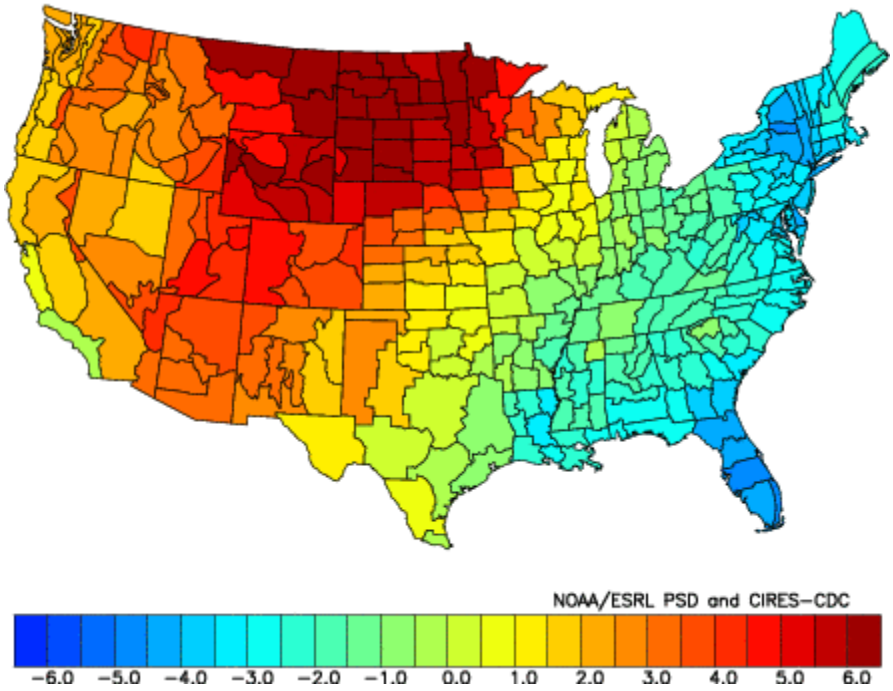
CPC next attempted to go the route of using the climate models but found them in time to be not skillful. They abandoned both approaches and settled back to using just ENSO and trends where they had more statistically sound ground to stand on.

In the private sector, where we look for any edge, we found that even thought there ere often just a few good matches for a given year, they often agreed and provided useful guidance on the season ahead. Also we have added nearly 20 additional years since that first CPC failed effort.

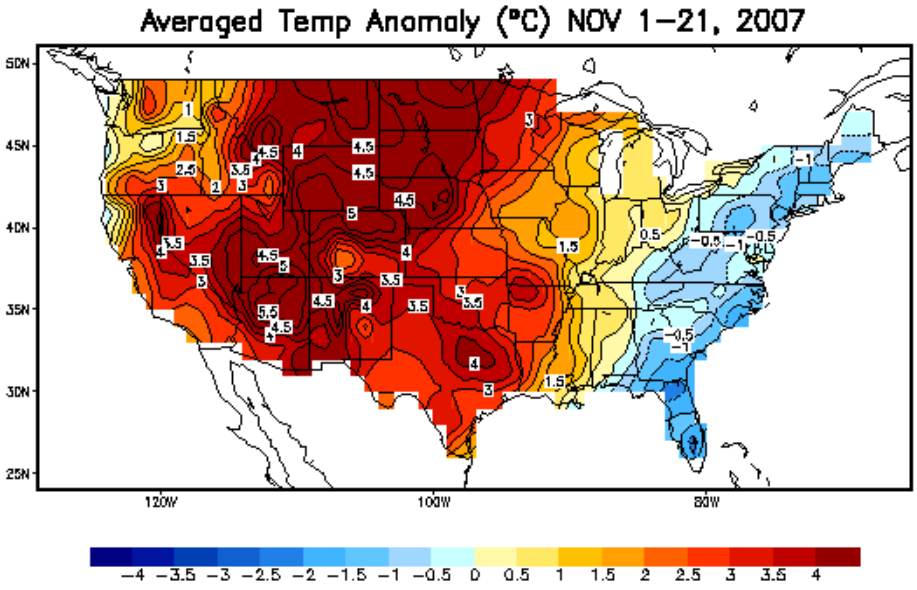
WINTER OF 2007/08

This year we have a La Nina and that normally means on average a warm winter for most of the populous eastern and southern United States. NOAA and most private forecast services reflect this in their outlook though a few have a cold start to the winter. For the winter as a whole, most forecasts have cold air restricted to the Pacific Northwest,

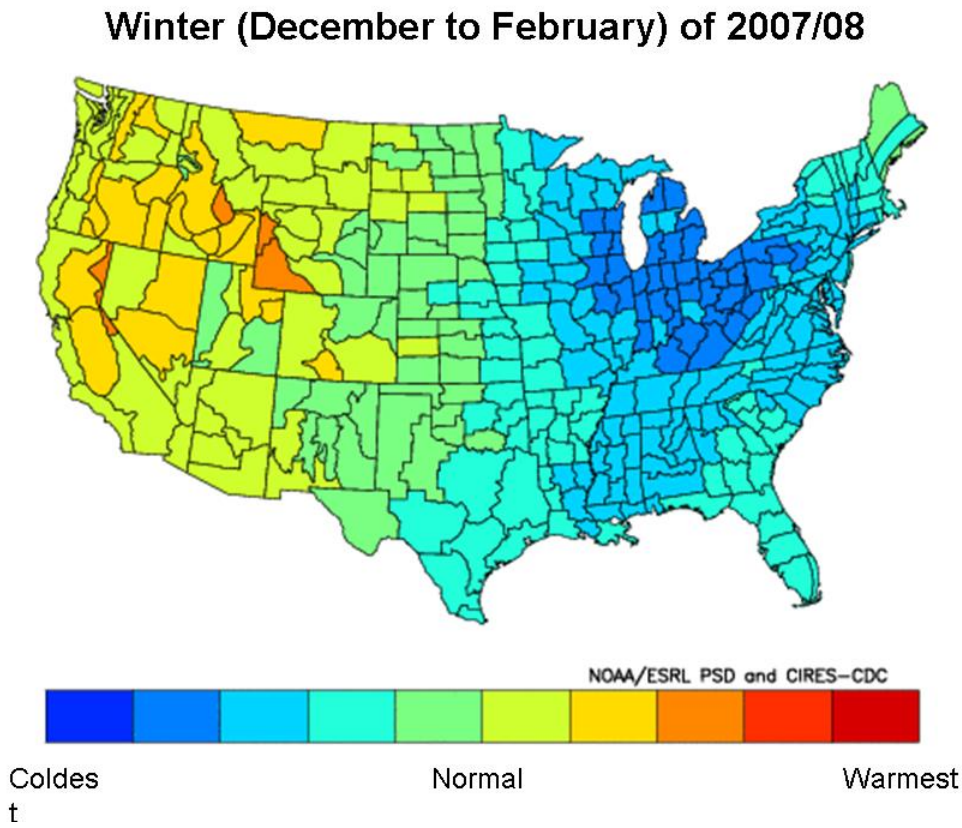
The other factors suggest something very different. They had suggested this would be the pattern for temperature anomalies for November (degrees F)



The actual November anomaly to date is very near this pattern (degrees C).



The following is what those same factors suggest for the December to February average anomaly. How often are these factors right? Usually they are very dependable. When they go astray it is usually because one of the factors changes dramatically. That is not expected this year.



Our confidence is buoyed by the fact the two primary factors when modulated by the third both favor similar patterns. On the negative side, this La Nina is stronger than the best matches found and we are never sure in what direction and by how much to exactly adjust for this greater strength again because we have not had enough prior examples to establish that. But we do anticipate more cold than current forecasts project and cold that may linger.

Remember how in the Southern Hemisphere, the winter of 2007 which just ended surprised many with its severity AND longevity on the cold side. Our friends at the Brazilian METSUL weather service have suggested extremes in their winters are often a precursor of what happens in our winter that follows here.

Already here in the Northern hemispheres, parts of Eastern Europe have seen more early snow than any year since 1974 and skiers are enjoying an early winter.

Also note the recent blog on how the Pacific may be undergoing a major regime change that may make climate very different in the years ahead.